National Institute of Environmental Health Sciences

Effects of weather variability on infectious gastroenteritis

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Abstract:

Although multiple combinations of weather variability may contribute to an increased incidence of infectious gastrointestinal disease, few studies have investigated the association between weather variability and cases of infectious gastroenteritis. We acquired data for infectious gastroenteritis cases and weather variability in Fukuoka, Japan, from 1999 to 2007 and used time-series analysis to assess the effects of weather variability on infectious gastroenteritis cases, adjusting for confounding factors. In total, 422,176 infectious gastroenteritis cases were reported during the 9-year study period. The weekly number of infectious gastroenteritis cases increased by 7.7% (95% CI 4.6-10.8) for every 1 degrees C increase in the average temperature and by 2.3% (95% CI 1.4-3.1) for every 1% decrease in relative humidity. From 1999 to 2007, infectious gastroenteritis cases increased significantly with increased average temperature and decreased relative humidity in Fukuoka, Japan.

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Resource Description

Exposure :

weather or climate related pathway by which climate change affects health

Meteorological Factors, Temperature

Geographic Feature:

resource focuses on specific type of geography

Ocean/Coastal

Geographic Location:

resource focuses on specific location

Non-United States

Non-United States: Asia

Asian Region/Country: Other Asian Country

Other Asian Country: Japan

Health Impact:

specification of health effect or disease related to climate change exposure

Infectious Disease

Infectious Disease: Foodborne/Waterborne Disease

Foodborne/Waterborne Disease (other): Infectious gastroenteritis

Mitigation/Adaptation: ☑

mitigation or adaptation strategy is a focus of resource

Adaptation

Model/Methodology: ☑

type of model used or methodology development is a focus of resource

Outcome Change Prediction

Population of Concern: A focus of content

Population of Concern: ☑

populations at particular risk or vulnerability to climate change impacts

Children

Resource Type: ☑

format or standard characteristic of resource

Research Article

Timescale: ☑

time period studied

Time Scale Unspecified

Vulnerability/Impact Assessment: ☑

resource focus on process of identifying, quantifying, and prioritizing vulnerabilities in a system

A focus of content